

Solve.

1. Angela earned \$85 doing chores. She put $\frac{3}{5}$ of the money in savings. She then spent $\frac{1}{2}$ the remaining money on shoes. How much money does she have left to spend?

2. I invited 6 people to a party, including me. I had 10 pieces of cake. How much did each person get if everyone got a fair share? Draw a diagram to support your answer.

3. My mom then got home with 9 more pieces of cake. We shared these equally too. How much cake did each person get this time? Draw a diagram to support your answer.

Evaluate.

4. $(3 \cdot 2)^2$

5. $(4x^3)^4$

6. $5^2 \cdot 5^{-5}$

7. $\left(\frac{1}{3}\right)^3$

Simplify

8. $2m^2 \cdot 3m^5$

9. $3j^3k^{-2} \cdot 3j^{-2}k^4$

10. $(x^3z^5)^0$

11. $(3ab^2)^2$

12. $(5w^3)^{-2}$

13. $\frac{r^3}{r^{-2}}$

14. $\frac{3a^4b^{-4}c^{-3}}{5a^2b^{-3}c^4}$

15. $\frac{2jk^{-2}m^3}{2km}$

Evaluate.

16. $\sqrt{28}$

17. $\sqrt[3]{-27}$

18. $\sqrt[5]{64}$

19. $\sqrt[4]{243v^6}$

20. $\sqrt[3]{5^3}$

Simplify.

21. $\sqrt{8x^4}$

22. $\sqrt[3]{64m^7n}$

23. $\sqrt[5]{-32x^6y^{10}z}$

24. $\sqrt[6]{448x^7y^8}$

Evaluate without a calculator. Write in radical form, then simplify.

25. $9^{\frac{1}{2}}$

26. $16^{\frac{3}{4}}$

27. $8^{\frac{1}{3}}$

28. $32^{\frac{2}{5}}$

29. $27^{\frac{4}{3}}$

Simplify. Leave answers with rational exponents and use only positive exponents.

30. $x^{\frac{1}{2}} \cdot x^{\frac{2}{3}}$

31. $y^2 \cdot y^{\frac{1}{2}}$

32. $w^{\frac{-2}{5}} \cdot w^{\frac{3}{2}}$

33. $(j^{-10})^{\frac{1}{4}}$

34. $\left(m^{\frac{3}{5}}\right)^{\frac{5}{3}}$

35. $\left(x^{-\frac{1}{2}}y^{-\frac{2}{3}}\right)^{-6}$

36. $\frac{k^{\frac{2}{7}}}{k^{\frac{1}{7}}}$

37. $\frac{k^2}{k^{\frac{2}{3}}}$

38. $\frac{x^4y^{-\frac{1}{3}}}{x^{-\frac{3}{2}}y^3}$

39. $\frac{a^{\frac{5}{2}}b^{\frac{3}{2}}}{a^{\frac{3}{2}}b^{\frac{1}{4}}}$

Simplify. Rationalize the denominator if needed.

40. $\frac{7}{\sqrt{13}}$

41. $\sqrt{5}(\sqrt{4} + \sqrt{3})$

42. $6\sqrt{20} + 4\sqrt[3]{6} - 7\sqrt{45}$